

## Redescription of *Elachista differens* Parenti, 1978 (Lepidoptera, Elachistidae)

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### Summary

*Elachista differens* Parenti is redescribed and compared with the other recognized West-Palaearctic species of the *Elachista gleichenella* group on the basis of a series collected in Rhineland, Germany. The female is described for the first time. The species externally closely resembles *E. gleichenella* (Fabricius) and *E. lambeseella* Nielsen & Traugott-Olsen. The structure of male genitalia indicates *E. lambeseella* to be the closest relative of the species. *E. differens* is also reported from Corfu, Greece, although the male genitalia show some minor differences.

### Zusammenfassung

*Elachista differens* Parenti, 1978, wird erneut beschrieben und ausserdem verglichen mit den anderen bekannten westpalaarktischen Arten der *Elachista gleichenella*-Gruppe auf der Grundlage einiger im Rheinland, Deutschland, gefundenen Faltern dieser Art. Das bisher unbekannte Weibchen wird zum ersten Mal beschrieben. Die Art gleicht äusserlich sehr der *E. gleichenella* (Fabricius) und *E. lambeseella* Nielsen & Traugott-Olsen. Der Bau der männlichen Genitalien zeigt, dass *E. lambeseella* am nächsten verwandt ist mit dieser Art. *E. differens* wird ebenfalls nachgewiesen von Korfu, Griechenland, obgleich die männlichen Genitalien der dort gefundenen Tiere einige kleine Abweichungen zeigen.

### Résumé

Redescription d'*Elachista differens* Parenti et comparaison de celle-ci avec d'autres espèces ouest-paléarctiques connues du groupe d'*Elachista gleichenella* en se basant sur quelques exemplaires trouvés en Rhénanie (Allemagne). Description de la femelle, jusqu'à présent encore inconnue. Extérieurement, *E. differens* ressemble beaucoup à *E. gleichenella* (Fabricius) et à *E. lambeseella* Nielsen & Traugott-Olsen. La structure des genitalia mâles montre que cette espèce est la plus proche de *E. lambeseella*. Elle a aussi été signalée de Corfou,

Grèce ; les genitalia mâles des exemplaires de ces deux régions présentent toutefois quelques petites différences.

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## Introduction

In the Palaearctic region five *Elachista* species belonging to the *gleichenella* group sensu TRAUGOTT-OLSEN and NIELSEN (1977) have so far been described : *E. gleichenella* (Fabricius, 1781), *E. regificella* Sircom, 1849, *E. differens* Parenti, 1978, *E. lambeseella* Nielsen & Traugott-Olsen, 1987 and the eastern Palaearctic *E. megagnathos* Sruoga, 1990. The description of *E. differens* was based on three male specimens collected from France (type locality) and Italy. The original description (PARENTI, 1978) contained only a short description of the external characters and a schematic figure of the male genitalia ; NIELSEN & TRAUGOTT-OLSEN (1987) therefore ignored this species when describing *E. lambeseella* (type locality Algeria, Lambése), even though these species are closely related. Additional material has shown that *E. differens* is rather widespread in Europe. In this paper we give a redescription of this species, including a description of the previously unknown female.

## *Elachista differens* Parenti, 1978

MATERIAL STUDIED : D NW-Nordeifel Marmagen, Gillesbachtal, 4.7.1992 1 ♀, 8.7.1992 1 ♂ 1 ♀, 3.7.1993 4 ♂♂ 6 ♀♀, 4.7.1993 5 ♀♀ Biesenbaum leg. Coll. Zoological Museum, University of Helsinki (2 ♂ 2 ♀), and coll. Biesenbaum. Greece, Corfu, 6.-14.6.1978, Vesa Varis leg., 8 ♂♂ in Coll. Zoological Museum, University of Helsinki.

DIAGNOSIS : Externally *Elachista differens* resembles *E. gleichenella* (Fabricius), but it is on average larger. Costal and tornal spots are usually separated in *E. differens*, whereas they almost always are joined in *E. gleichenella*, forming a fascia (Figs 1-2, 4). These species are readily distinguished by the very different shape of valva, uncus lobes and aedeagus in the male genitalia (Figs 5 and 7). In the female genitalia the diagnostic characters of *E. differens* are the non-sclerotized antrum and colliculum, narrower signum and pyriform corpus bursae (Figs 11-12, 14). The colliculum of *E. gleichenella* is dorsally sclerotized (Fig. 15) ; the corpus bursae is constricted just below middle (Fig. 13) [this character is ignored in TRAUGOTT-OLSEN & NIELSEN (1977 : Fig. 401)].

The male genitalia of *E. differens* somewhat resemble those of *E. regificella* Sircom, but the gnathos is much larger, and the aedeagus



Figs 1-4. Habitus of *Elachista* spp. : 1 — *E. differens* Parenti ♂ (Nordeifel, Germany) ; 2 — *E. differens* ♀ (Nordeifel, Germany) ; 3 — Holotype ♂ of *E. lambeseella* Nielsen & Traugott-Olsen (Lambèse, Algeria) ; 4 — *E. gleichenella* (Fabricius) ♀ (S. Germany).

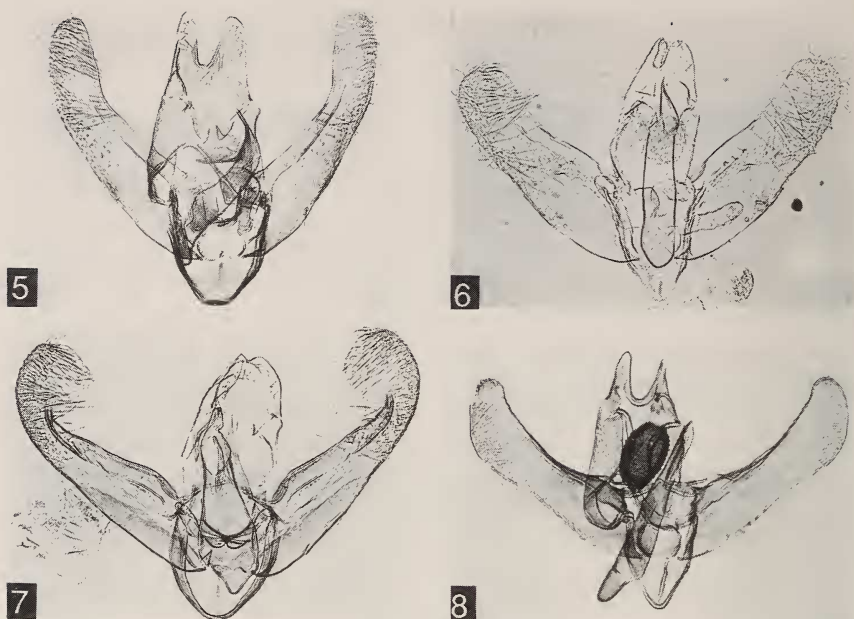
is straight in *E. regificella* (Fig. 8). The female of *E. regificella* has a longitudinal, dentate sclerotization in the colliculum (Fig. 16), which is lacking in *E. differens*.

Based on male genitalic characters *E. lambeseella* Nielsen & Traugott-Olsen, 1987 seems to be the closest relative of *E. differens*. Externally *E. differens* can be separated from this species by the broader forewing and larger size (Figs 1-3). In the male genitalia the uncus lobes are longer and more slender, the valva is narrower, the cucullus of the valva is more elongate and slightly bent and no cornuti are present in the aedeagus (Figs 5-6, 9-10). The female of *E. lambeseella* remains unknown.

### Redescription

(Figs 1-2, 5, 9-10, 11-12, 14)

Labial palpi drooping, slightly curved, leaden grey, third segment slightly shorter than second. Head and neck tufts leaden grey with



Figs 5-8. Male genitalia of *Elachista* spp. : 5 — *E. differens* Parenti (L. Kaila prep. no. 1136) ; 6 — Holotype of *E. lambeseella* Nielsen & Traugott-Olsen (prep. E. S. Nielsen 1776) ; 7 — *E. gleichenella* (L. Kaila prep. no. 444) ; 8 — *E. regificella* (L. Kaila prep. no. 1127).

metallic sheen. Antennae unicolorous grey, in distal 2/3rds segments with distally slightly raised scales. Tegulae, thorax and abdomen leaden grey with metallic sheen. Legs grey, underside of tibia creamy white, tarsal segments with white distal rings. Forewing ground colour mottled black with bronzy sheen ; base shining silvery ; fascia from before middle of costa to middle of dorsum, silvery with bluish or greenish reflection ; triangular costal spot creamy white at costa, towards middle of wing silvery just beyond opposite silvery tornal spot ; an irregular third spot between tornal spot and apex formed by some silvery scales ; especially in female the three spots often joined forming fascia with medial angle towards apex. Hindwing and underside of wings grey. Forewing length 3.5-4 mm in male (n = 4), 2.5-4 mm in female (n = 13). Most female specimens smaller than males.

**MALE GENITALIA :** Uncus lobes long, gradually tapering toward rounded tip, with row of stout setae. Gnathos large, rounded. Valva rather narrow, tapering towards tip ; costa straight, well sclerotized ; cucullus



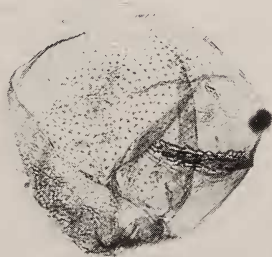


Figs 9-10. Male genitalia of *E. differens* : 9 — aedeagus with carina in the margin of distal opening (L. Kaila prep. no. 1133) ; 10 — juxta lobes (L. Kaila prep. no. 1134).

11



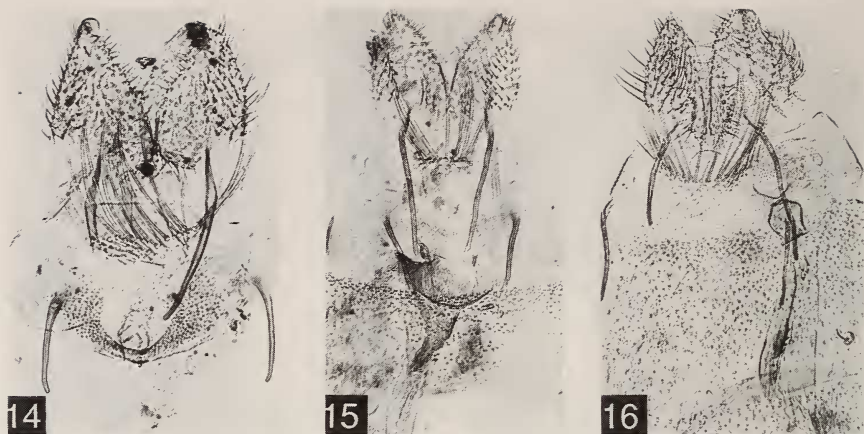
12



13



Figs 11-13. Female genitalia of *Elachista* spp. : 11, 12 — *E. differens* (L. Kaila prep. no. 1137) ; 13 — *E. gleichenella* (L. Kaila prep. no. 1132).



Figs 14-16. Region of ostium bursae in female genitalia of *Elachista* spp. : 14 — *E. differens* (L. Kaila prep. no. 1137) ; 15 — *E. gleichenella* (L. Kaila prep. no. 1131) ; 16 — *E. regificella* (L. Kaila prep. no. 1130).

elongate with rounded tip, slightly bent forming an angle with costa. Digitate process rather broad, blunt, with setae. Juxta lobes separated by short incision medially, almost parallel-sided, truncate, apical margin slightly rounded near the incision ; with short, pointed lateral process. Vinculum rounded, with indistinct median ridge. Aedeagus short and broad, S-shaped ; caecum processed, blunt ; distal part oblique, tapering into strongly pointed distal end, margin of distal opening laterally asymmetrical with elongate carina ; without cornuti.

**FEMALE GENITALIA :** Distal margin of eighth tergite with long setae. Apophyses stout, posteriores three times longer than anteriores. Ostium bursae rounded with strongly sclerotized margins. Antrum very short, funnel-shaped, neither antrum nor colliculum sclerotized. Corpus bursae rounded with small internal spines ; signum elongate, dentate.

### Remarks

We consider the series from Greece, Corfu, to belong to *E. differens*, although the uncus lobes seem to be slightly narrower, and carina of aedeagus is smaller in these specimens. These differences are in our opinion minor, and the material available does not allow taxonomic separation of these populations. Further material is needed for an evaluation of the geographic variation of the species.

## Acknowledgements

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